

REMARKS

This amendment is being filed in connection with a Request for Continued Examination of the instant application. A three month extension of time to respond is also enclosed. The comments of the Examiner in his final rejection of the claims remaining after the amendment filed on September 29, 2003, based on 112, 102 and/or 103 have been given consideration by the Applicant and, in view of those comments, Applicant submits the foregoing amendments as placing the claims in condition for allowance and requests favorable consideration of the amended claims. Moreover, a three month suspension of the prosecution of this application has been requested with the fee paid in order to obtain declarations to assist in the allowance of this application.

The comments of the Examiner in his objection to the drawings and specification, and his rejection of claims 1-16 based on 35 USC 112 (first and second paragraphs), 102(b) and 103(a) have been given consideration by the Applicant and, in view of those comments, Applicant submits the foregoing amendments as placing the claims in condition for allowance and requests favorable consideration of the amended claims.

Turning first to the drawings, a revised Fig. 2 is submitted and the specification has been amended accordingly, so as to obviate this rejection. With respect to the "adhesion layer" described on page 8 of the specification as filed, Applicant submits that this is shown by reference numeral 48 in Fig. 5 as further revised to better show lead lines 48 and 12 connecting

to the adhesion layer and inner tube respectively. The drawings are now submitted as being acceptable.

With respect to the drawings showing a “geodesic isotenoid elliptical shape”, Applicant submits that they do. Applicant refers the Examiner to a number of patents that discuss winding of filament, namely U.S. Pat. Nos. 3,945,578, 5,806,705, 5,526,994, 5,484,079, 5,340,625, 5,032,016, 4,881,998 and 4,566,609 so that the fiber would be in essentially equal tension i.e. isotenoid, with shapes that could be geodesic and elliptical. None of the aforementioned patents were cited by the Examiner or in Applicant’s IDS, but were located by a Boolean search on the PTO web site. Consequently, one of ordinary skill in the winding of casings would appreciate the state of the prior art described above, such that the term as used by Applicant would be understood by one of ordinary skill in the art, and that the drawings reflect that fact. In Applicant’s invention, since a longitudinal axis extends the length of the claimed invention with its symmetrical ends, the wrapped shape that is generated must be a geodesic isotenoid elliptical shape, as stated in the specification, such that this objection is submitted as having been overcome. Similarly, these comments are submitted as overcoming the rejection under Section 112, second paragraph with respect to claims 8, 13-16.

With respect to the specification, amendments have been made to paragraphs [0015] and [0024]. The former amendment concerns the changes to the description of Fig. 3. The latter amendment addresses the comments of the Examiner in his enumerated paragraph 2.

Turning now to the rejections under Section 112, first paragraph, claims 8, and 13-16 were rejected. Based upon the several patents referenced above by Applicant concerning the winding of casings to achieve isotenoid structures, it is submitted that one of ordinary skill in the art would find the specification enabling. Therefore, undue experimentation would not be required to make and/or use the claimed invention, despite the numerous parameters involved.

Turning now to the rejections under 35 U.S.C. 102(b), claims 1, 4-7, and 9-12 have been rejected as being anticipated by Williams '978. As amended, the claims include recitations that the end pieces include a knurled surface that is also in contact with the composite material as is shown in the drawings and discussed in paragraph [0010]. Also claimed is the open ended structure of the overall shaft as can be appreciated from a comparison of Figs. 1, 2, 4B, and 5. Williams '978 has a knurled surface 18, but it is designed to be in contact with the interior wall of the inner tube member as can best be appreciated from Fig. 1 of the reference. Further, Fig. 1 clearly shows that the ends of the shaft of Williams are not open ended, but sealed. Thus, the claimed invention is neither anticipated nor made obvious based on this reference. There is no teaching, suggestion, or motivation to include such structural aspects in Williams. Therefore, this ground of rejection must be withdrawn.

Turning now to the Section 102 rejection of claims 1, 4-7, and 9-12 based on Williams '884, as amended, the claims include recitations that the end pieces include a knurled surface that is also in contact with the composite material as is shown in the drawings and discussed in paragraph [0010]. Also claimed is the open ended structure of the overall shaft as can be

appreciated from a comparison of Figs. 1, 2, 4B, and 5. Williams '884 has a knurled surface 18, but it is designed to be in contact with the interior wall of the inner tube member as can best be appreciated from Fig. 1 of the reference. Further, Fig. 1 clearly shows that the ends of the shaft of Williams are not open ended, but sealed. Thus, the claimed invention is neither anticipated nor made obvious based on this reference. There is no teaching, suggestion, or motivation to include such structural aspects in Williams. Therefore, this ground of rejection must be withdrawn.

Turning now to the Section 102 rejection of claims 1-7, and 9-12 based on Kreft, Applicant notes that Kreft discloses a shape imparting core 5 made of an aerated plastic. It is a solid device, not a shaft with opposing open ends as is claimed by Applicant. The Examiner on page 8 of the instant Office Action states that "applicant argues that Kreft fails to show an elongated inner tube member having opposed open ends because core 5 is "solid". However, cutaway view Fig. 2A clearly shows core 5 is in the shape of a hollow tube." The Examiner's reliance on Fig. 2A is misplaced. Core 5 is cross-hatched, therefore it can not be a hollow tube as argued by the Examiner. What the Examiner may have been noticing is that the layer 6 is similar to the inner tube member of Applicant in that it is open at both ends. However, the structure of Kreft is not open ended at each end as can clearly be appreciated by Fig. 2A, with its various cross-hatchings and total absence of hollow space. Further, as amended, the claims include recitations that the end pieces include a knurled surface that is also in contact with the composite material as is shown in the drawings and discussed in paragraph [0010]. Also,

claimed is the open ended structure of the overall shaft as can be appreciated from a comparison of Figs. 1, 2, 4B, and 5. Kreft is devoid of any knurled surface and the ends of the structure of Kreft are not open ended, but sealed. Thus, the claimed invention is neither anticipated nor made obvious based on this reference. There is no teaching, suggestion, or motivation to include such structural aspects in Kreft. Therefore, this ground of rejection must be withdrawn.

Turning now to the Section 102 rejection of claims 1-4, 7-10, and 13-14 based on Underwood, Applicant once again takes issue with the Examiner calling the invention of Underwood a “shaft”, since Underwood goes to great pains to discuss his invention as being that of a “container” i.e. a pressure vessel. Even the Examiner in paragraph 12b of the instant Office Action has stated for the record that pressure vessels are non-analogous art with respect to the shaft of Applicant’s invention. Based on this statement by the Examiner which Applicant agrees with, Applicant submits that Underwood should be rejected as a reference since it is non-analogous art. Alternatively, as amended, the claims include recitations that the end pieces include a knurled surface that is also in contact with the composite material as is shown in the drawings and discussed in paragraph [0010]. Also claimed is the open ended structure of the overall shaft as can be appreciated from a comparison of Figs. 1, 2, 4B, and 5. These structural characteristics are neither shown nor suggested in Underwood. Thus, the claimed invention is neither anticipated nor made obvious based on this reference. Therefore, this ground of rejection must be withdrawn.



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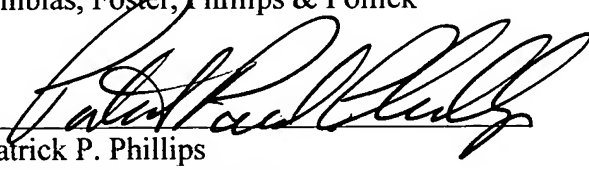
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In view of the amendments to the drawings, specification and claims, and the foregoing remarks, claims 1-20, including newly added claims 17-20 are submitted for further consideration as being patentable. The allowance of these claims is respectfully solicited. If the Examiner has any questions which would expedite issuance of a Notice of Allowance, a telephone call to the undersigned is requested. The Commissioner is authorized to charge Deposit Account No. 13-3393 for any insufficient fees under 37 CFR §§ 1.16 or 1.17, or credit any overpayment of fees.

Respectfully submitted,

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June 3, 2004

Enclosures - Petition for 3 month extension of time;
RCE transmittal letter requesting
3 month suspension; and Fee
transmittal form

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